

WAT

(Water Analytic Test)

1. INTRODUCTION

Water is a viable source to sustain life on earth. Drinking water is a precious resource which plays a major role in the well-being of the human beings. Contamination of drinking water serves as a medium for the transmission of hazardous agents which causes serious health issues. Henceforth it rises the need of live time water quality monitoring system for the well-being of humans.

2. METHODOLOGY

World Health Organization (WHO) has set certain guidelines and parameters for the drinking water quality in order to prevent the spread of water borne diseases and protect the mankind from drinking contaminated water that being the case the following parameters must be monitored for the betterment of mankind:

- 1) Turbidity
- 2) Oxidation Reduction Potential,
- 3) Temperature
- 4) pH

A turbidity probe works by sending a light beam into the water to be tested. This light will then be scattered by any suspended particles. The amount of light reflected is used to determine the particle density within the water. The more light that is detected, the more particles are present in the water.

Concentration than alkaline solution. pH probes measure pH by measuring the voltage or potential difference of the solution in which it is dipped so, to make electricity flow through the test solution, you have to put two electrodes (electrical terminals) into it.

The measurement of the temperature sensor is about the hotness or coolness of an object. The working base of the sensors is the voltage that read across the diode. If the voltage increases, then the temperature rises and there is a voltage drop between the transistor

terminals of base & emitter, they are recorded by the sensors. If the difference in voltage is amplified, the analogue signal is generated by the device and it is directly proportional to the temperature.

The Oxidation-Reduction Potential (ORP) Sensor measures the ability of a solution to act as an oxidizing or reducing agent. Use the ORP Sensor to measure the oxidizing ability of chlorine in swimming pools or to determine when the equivalence point has been reached in an oxidation-reduction reaction.

PARAMETERS TO BE MONITOR

Sl.NO	Parameters	Units	Quality Range
1	Turbidity	NTU	0.5 - 1.0
2	Oxidation Reduction Potential	mV	650 – 800
3	Temperature	°C	20°-40°
4	pH	pH	6.5 - 8.5

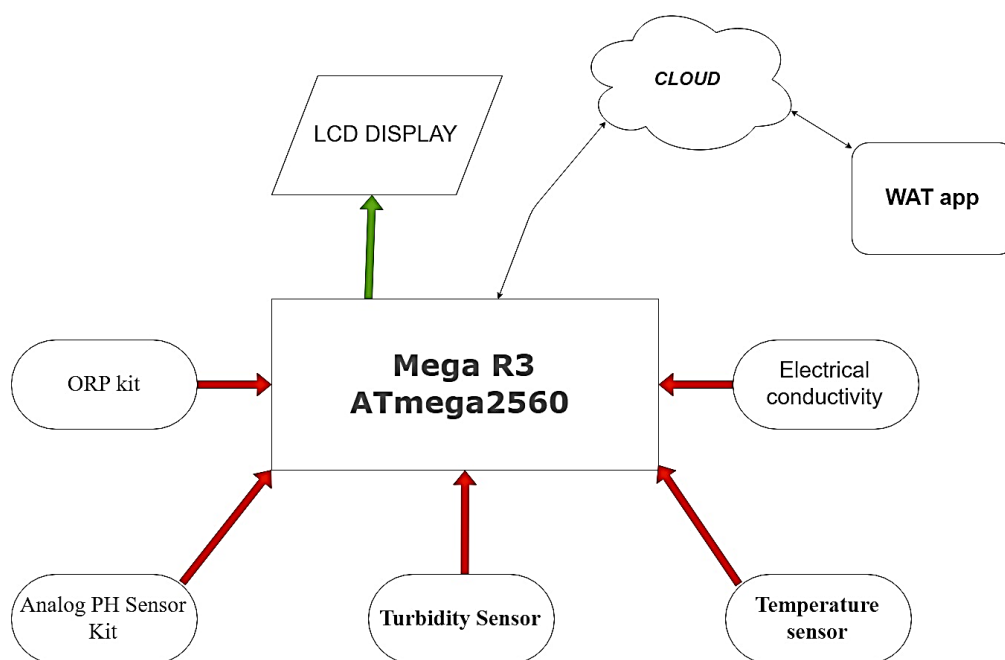


Figure 1: Block Diagram of Water Analytic Test

3. REQUIREMENT

- Mega +Wi-Fi R3 Atmega2560+NodeMCU ESP8266:1500 /-
- ORP kit: 500 /-
- Turbidity Sensor: 1000 /-
- Temperature sensor: 400 /-
- LCD Display: 200/-
- Others: 400/-

TOTAL COST:-4000/-

4. CONCLUSION:-

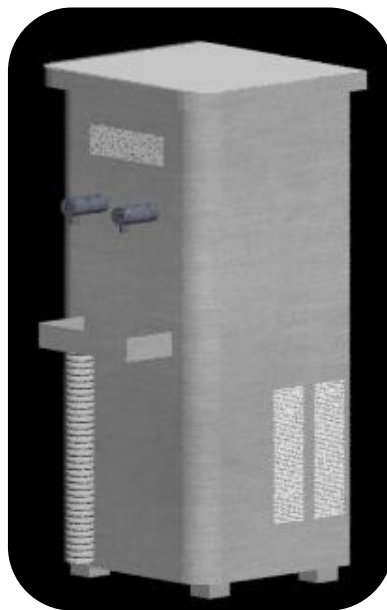
The following project is the design and development of real time water quality monitoring system for drinking water using wireless networks. Being cost efficient, low power consumption and light weight .Moreover the system can be installed at remote areas. Powering it up with an android app the system can be monitored from distinct places and necessary actions can be taken to ensure the standards of drinking water are maintained. Our future plan is to detect other contaminants like nitrates, lead etc.

5. ACKNOWLEDGEMENT:-

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